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| 09/437,619 | 11/10/1999 | DORIAN BIRSAN | 12991(CA998- | 8229 |

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|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2178 | |

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/437,619 | BIRSAN ET AL. |
| | Examiner | Art Unit |
| | Jonathan D Stone | 2178 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 November 1999* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. This action is responsive to communications: Amendment A filed on 5/29/03.

2. Claims 1-31 are pending in the case. Claims 1, 14-16, 29, 31 are independent claims.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

***Claims 1-2, 7-11, 13, 15-17, 22-26, and 28-30 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Percival et al (herein Percival; USPN 6226652 – filing date 9/5/1997) in view of Kramer (USPN 6216140 – filing date 9/17/1997) and in further view of Maslov (USPN 6466240 – filing date 4/2/1999, priority date 7/8/1998).***

4. **Regarding independent claim 1,** Percival discloses comparing two different versions of files based by comparing elements of those files (abstract, Fig. 3; compare with *"comparing the...modified file;"*). Percival discloses combining the files for presentation to a user (col 1, ln 41-49; compare with *"providing...modified files;"*). The differences between the files are highlighted on a user interface (col 3, ln 59-62 and fig 3-9; compare with *"highlighting...modified files."*).

Percival does not explicitly disclose providing a tree structure to a user. However, Kramer teaches the merging of hierarchies of items and the creation of difference lists to discover any discrepancies between versions. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventions of Percival and Kramer to be able to present the merged information being compared in a hierarchical format. Such a combination would have presented certain users with a graphical display more familiar to them, thereby making the invention easier to use.

Percival and Kramer do not explicitly disclose comparing elements of a structured file. However, Maslov teaches the display of a structured document in a hierarchical format, enabling a user to modify elements via a tree display. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Percival and Kramer to enable the comparison of structured documents and their display in tree structures. This modification would have given users a wider range of data to be able to compare, thereby increasing the user's ability to manage different versions of data.

5. **Regarding dependent claim 2,** Percival teaches resolving differences by selecting data or merging several data sources with selection and modification (abstract).

6. **Regarding dependent claim 7,** Maslov teaches the display of a tree structure (fig 1).

7. **Regarding dependent claim 8,** Maslov teaches displaying a tree structure of a structured document in one window and the document itself in an adjacent window (fig 1). However,

Percival teaches displaying a number of different scenarios, including a split-merge view that displays both of the data versions adjacent to each other with an additional pane displaying merged data. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Maslov and Percival to display the different element versions in a split screen with the tree structure adjacent to the element panes. This would have given the user the ability to see all the data at once to better determine how differences ought to be resolved.

8. **Regarding dependent claim 9,** Maslov teaches displaying a tree structure and the base document where both panes are always synchronized (col 4, ln 31-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention discloses in the rejection of claim 8 in order to synchronize all three panes to display the appropriate selected element if it exists in each file. This would have enabled the user to better search and browse the versions and note differences between the two, thereby enabling the user to better determine how differences ought to be resolved.

9. **Regarding dependent claims 10 and 11,** the use of ID and name attributes associated with an element was known and typical at the time of the invention. ID and name attributes were known and typical in all arts dealing with data structures, these attributes being a simpler and more readable method of uniquely representing data. It would have been obvious to one of ordinary skill in the art at the time of the invention to use these known means to compare two

elements. This would have provided a method that would have most likely been faster (comparing an ID instead of content) for comparisons.

10. **Regarding dependent claim 13,** the use of XML as a structured markup language was known and typical in the art at the time of the invention. The inclusion of XML in addition to the disclosed represented languages in Maslov (HTML, SGML; abstract) would have been obvious to one of ordinary skill in the art at the time of the invention. This would have increased the breadth of the invention.

11. **Regarding independent claims 15 and 16,** the claims incorporate substantially similar subject matter as claim 1, and are rejected along the same rationale.

12. **Regarding dependent claims 17, 22-26 and 28,** the claims incorporate substantially similar subject matter as claims 2, 7-11, and 13, respectively, and are rejected along the same rationale.

13. **Regarding independent claim 29,** the claim incorporates substantially similar subject matter as claim 1, and is rejected along the same rationale. Percival, Kramer, and Maslov do not explicitly disclose the use of a parser to produce a parse tree output for subsequent comparing and merging. However, the use of a parser in Maslov's invention is inherently taught when transforming a structured text to a graphical tree. One of ordinary skill in the art at the time of the invention would have realized that a parser would have been necessary to transform the text

of a structured document by placing elements of the document into the hierarchical nodes of a tree.

14. **Regarding dependent claim 30,** Maslov teaches displaying a tree structure (fig 1).

***Claims 3-6, 18-21, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Percival in view of Kramer and Maslov and in further view of Bloom (USPN 3711863 – filing date 1/21/1972).***

15. **Regarding dependent claim 3,** Percival, Kramer, and Maslov do not explicitly disclose indicating if differences are new, changed, or removed. However, Bloom teaches an invention for comparing files that determines and marks accordingly a section of data that is a deletion (removed), an addition (new), or a modification (changed; col 2, ln 1-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Percival, Kramer, and Maslov with the teaching of Bloom. Such a combination would have given a user a more conspicuous indication as to what difference results the invention found and would have made choosing the appropriate action to resolve the difference easier.

16. **Regarding dependent claims 4-6,** Percival teaches resolving differences between two different versions of files. Percival discloses a resolving method that uses user input to select a version for resolving a difference (col 5, ln 14-30). In the invention of the combination of references from the rejection of claim 4, selecting a version to resolve a "new" difference would have either used the new element or not used the new element. Likewise, selecting a version

with a "removed" or "changed" element would have either implemented the difference of the selected version, or would have maintained the status of the other version. Percival also discloses a Merge Target button that merges the different versions.

17. **Regarding dependent claims 18-21,** the claims incorporate substantially similar subject matter as claims 3-6, and are rejected along the same rationale.

18. **Regarding independent claim 31,** the claim incorporates substantially similar subject matter as claim 1, and the rejection of claim 1 is fully incorporated herein. Maslov teaches a hierarchical structure that contains a plurality of nodes, each node corresponding to an element of a structured document (abstract, fig 1). Percival, Kramer, and Maslov do not explicitly disclose indicating at each node if the node is new, changed, or removed. However, Bloom teaches an invention for comparing that determines and marks accordingly a section of data that is a deletion (removed), an addition (new), or a modification (changed; col 2, ln 1-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Percival, Kramer, and Maslov with the teaching of Bloom. Such a combination would have given a user an easier indication as to what difference results the invention found and then choose the appropriate action to resolve the difference.

***Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Percival in view of Kramer and Maslov and in further view of Reed et al (herein Reed; USPN 5862325 – filing date 9/27/1996).***

19. **Regarding dependent claim 12,** the use of XML as a structured markup language was known and typical in the art at the time of the invention. The inclusion of XML in addition to the disclosed represented languages in Maslov (HTML, SGML; abstract) would have been obvious to one of ordinary skill in the art at the time of the invention. This would have increased the breadth of the invention.

The use of ID and name attributes and UUIDs associated with an element was known and typical at the time of the invention. ID and name attributes and UUIDs were known and typical at the time of the invention in data structure-related arts. The attributes were a simpler and more readable method of uniquely representing data. Reed teaches the common use of a UUID for unique global representation of data (col 25, ln 8-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to use these known means to compare two elements. This would have provided a method that would have most likely been faster (comparing an attribute instead of content) for comparisons.

The use of other tags, and the concatenation thereof, as comparators would have also been obvious to one of ordinary skill in the art at the time of the invention. The most obvious source for a comparison would have been the value or content of the element itself. The use of tags and attributes as comparison means would have been beneficial in providing a faster comparison method.

20. **Regarding dependent claim 27,** the claim incorporates substantially similar subject matter as claim 12, and is rejected along the same rationale.

***Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Percival in view of Kramer and Maslov and in further view of Souder et al (herein Souder; USPN 5806074 – filing date 3/19/1996).***

21. **Regarding independent claim 14,** the claim incorporates substantially similar subject matter as claim 1, and is rejected along the same rationale. Percival, Kramer, and Maslov do not explicitly disclose the comparison of data structures. However, Souder teaches resolving conflicts (i.e. differences) between data structures. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention disclosed by Percival, Kramer, and Maslov to also perform its functions on hierarchical data structures. This modification would have given users a wider range of data to be able to compare, thereby increasing the user's ability to manage different versions of data.

22. Prior art made of record and not relied upon is considered pertinent to disclosure.

| | | |
|---|---|---|
| US-6,560,620 | To: | Ching, Philip Waisin |
| US-5,956,726 | To: | Aoyama et al. |
| US-5,708,806 | To: | DeRose et al. |

Chawathe et al, "Change Detection in Hierarchically Structured Information", Proceedings of the 1996 ACM SIGMOD International conference on Management of Data, Quebec Canada, 1996.

Quin, Liam "Xentensible Markup Language (XML)" W3C, www.w3.org/XML, June 10, 2003.

Connolly, Dan "Development History" W3C www.w3.org/XML/hist2002 January 6, 2003.

***Response to Arguments***

23. Applicant's arguments filed 5/29/03 in Amendment A have been fully considered but are not persuasive.

24. Regarding claims 1, 15, 16 Applicant argues (pg 9, paper 4) Percival does not teach highlighting differences between elements of a base file and a modified file. The Office maintains Percival's teaching of highlighting differences in col 3, ln 59-62 and Figs. 3-9 where various colors, cross-hatching, slashing, and reverse slashing are used as a means of highlighting certain regions. Regarding claim 1, Applicant argues (pg 9, paper 4) Kramer is not concerned with comparing elements of files to one another. However, Kramer does teach comparing hierarchical sets of data with a concern for content and attributes of the data (col 3, ln 35-38). In addition, Percival teaches the comparison of data based on elements (entire document). Applicant argues (pg 10, paper 4) Maslov does not teach or suggest identifying to a user the differences between elements of two hierarchically structured files. The Office agrees with Applicant. However, Maslov is not used in the rejection to show such limitations; these limitations are taught by the combination of Percival and Kramer. On the contrary, Maslov is included in the rejection to show that hierarchically structured files were known to be representable and further editable in a tree form. Since Percival teaches comparing various files, including programming files (markup languages were known forms of hierarchically structured files in the art at the time of the invention), the combination with Kramer and Maslov would have given one of ordinary skill in the art at the time of the invention an invention that enabled the comparison of files, including files of a hierarchical structure, such a those taught by Maslov.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

25. Regarding claims 2, 7-9, 30, Applicant argues (pgs 10-11, paper 4) the cited references do not overcome the limitations as claimed. However, the Office maintains the rejections as presented above and urges the Applicant to consider the references in combination with one another.

26. Regarding claims 10-11 and 13, Applicant requests (pg 11, paper 4) the Examiner cite the basis for the assertions made relative thereto. Regarding claims 10-11, Kramer teaches, in the background, the use of a name and user-designed attribute string (i.e. ID) as attributes of a hierarchy item. The additional W3C references teach the existence of XML as a common hierarchical markup language for a number of years prior to the time of the invention.

27. Regarding claim 29, Applicant argues (pg 11, paper 4) the cited references do not teach or suggest producing a parse tree output for two hierarchically structured files and merging them for comparison. However, the use of a parser to parse the elements of a markup language was

known and typical in the art at the time of the invention (refer to the teachings of DeRose: USPN 5708806 – filing date 6/7/1995; col 10, ln 59 - col 11, ln 9). Therefore, using a parser to create the tree taught by Maslov would have resulted in a parse tree output for a hierarchically structured file. When in combination with the other references, Percival and Kramer, an invention that would have allowed the comparison between more than one hierarchically structured file by merging multiple files would have been obviated.

28. Regarding claim 3-6, 18-21, Applicant argues (pg 11, paper 4) the cited references do not teach or suggest the claimed limitations. However, the Office maintains the rejections as presented above and urges Applicant to reference said rejections.

29. Regarding claim 31, Applicant argues (pg 10, paper 4) the cited references do not teach the limitations as claimed and that the cited references could not be combined into a working system. However, the Office maintains the rejections as presented above and stands firm that the collection of references, when combined, does obviate the claimed invention. The Office also disagrees that the cited references could not be combined into a working system. Rather, the Office contends that the combination of the references, driven by Percival's goal of comparing multiple files or data sets and allowing a user to modify said files or data sets, could have been combined into a functional system.

30. Regarding claim 12-27, Applicant argues (pg 10, paper 4) the motivation to use the identifier as claimed. The office maintains that UUIDs were a known and typical means in art at

the time of the invention for implementing data with universally distinct identifiers and as such would have been obvious to use as a means for locating data.

31. Regarding claim 14, Applicant argues (pg 10, paper 4) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Percival teaches a need for automatically selecting updated different versions of a file and resolving conflicts therein, whereas Souder teaches an invention that provides configurable conflict resolution, including detection and resolution of update, uniqueness, and delete conflicts (col 5, ln 17-23). As such it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Percival and Souder, along with Maslov and Kramer in order to handle hierarchically structured data presented in a tree format.

***Conclusion***

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D Stone whose telephone number is (703) 305-7854. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R Herndon can be reached on (703) 308-5186. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications. Responses to this action may be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Hand-delivered responses should be brought to:

Crystal Park II, 2121 Crystal Drive
Arlington, VA, Fourth Floor (receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JDS
July 29, 2003

STEPHEN S. HONG
PRIMARY EXAMINER